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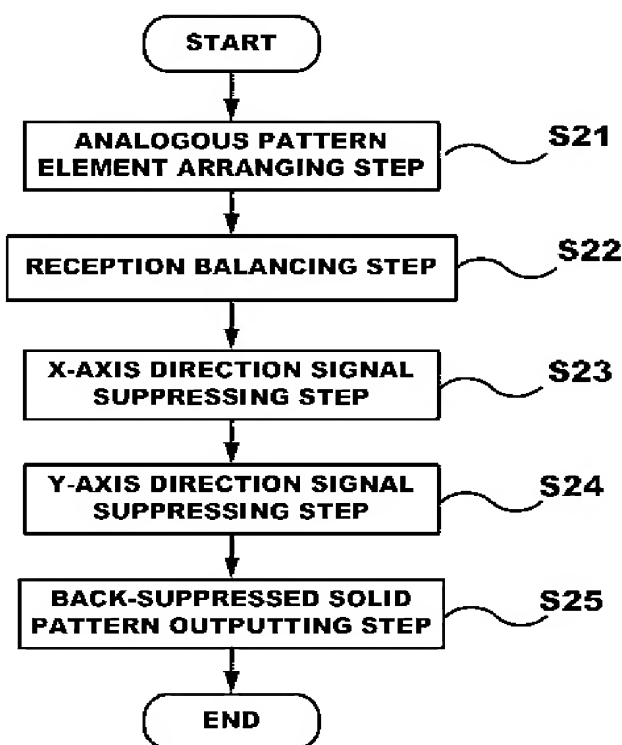
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(54) Title: **ARRAY ANTENNA FOR SUPPRESSING BACK SIGNAL AND METHOD FOR DESIGNING THE SAME**



(57) Abstract: The present invention provides a method for designing a front directional array antenna for suppressing a back signal used in a wireless communication, comprising: (a) an analogous pattern element arranging step for arranging, on a reflecting panel which is a conductor at a predetermined interval, elements having mutual analogous emission pattern characteristic for a short axis (x axis) in which the number of arrangements is small and for a long axis (y axis) which is a perpendicular direction to the x axis; (b) a reception balancing step for forming, in the edge of the reflecting panel, reflecting surfaces having a predetermined angle and length which are symmetric centering on the front surface to direction of electric wave arrived to the elements located in the edge; (c) an x-axis direction signal suppressing step, by x-axis series distribution and synthesis, for performing as many series distribution and synthesis suppressing transfer characteristic in an x-axis direction as the number of y rows, for output distribution and synthesis for the x axis arrangement, in synthesizing a signal of the array antenna after the step (b); (d) a y-axis direction signal suppressing step, by y-axis series distribution and synthesis, for performing series distribution and synthesis suppressing transfer characteristic in a y-axis direction in finally performing distribution and synthesis in the y-axis direction, for output distribution and synthesis for the x axis arrangement; and (e) a back-suppressed sold pattern outputting step for providing result of arrangement signal distribution and synthesis of the y axis to a contact means outside the antenna device.

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